



SEQUENCE LISTING

<110> Murdin, Andrew D
Dunn, Pamela L

<120> IMMUNOGENIC COMPOSITIONS FOR PROTECTION AGAINST
CHLAMYDIAL INFECTION

<130> 1038-971 MIS:jb

<140> 09/391,606

<141> 1999-09-07

<160> 20

<170> PatentIn Ver. 2.1

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<211> 2545

<212> DNA

<213> Chlamydia pneumoniae

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<212> DNA

<213> Chlamydia pneumoniae

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<213> Chlamydia pneumoniae

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 <211> 63
 <212> DNA
 <213> *Chlamydia pneumoniae*

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 gac 63

<210> 6
 <211> 18
 <212> DNA
 <213> *Chlamydia pneumoniae*

<400> 6
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<210> 7
 <211> 217
 <212> PRT
 <213> *Chlamydia pneumoniae*

<400> 7

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 35 40 45
 Met Lys Tyr Lys Tyr Cys Val Trp Gln Trp Leu Val Gly Lys His Ser
 50 55 60
 Gln Val Pro Trp Ile Asn Gly Gln Lys Lys Pro Leu Tyr Leu Tyr Gly
 65 70 75 80
 Ala Phe Leu Met Asn Pro Leu Ala Lys Ala Thr Lys Thr Thr Leu Asn
 85 90 95
 Gly Lys Glu Asn Leu Ala Trp Phe Ile Gly Gly Thr Leu Gly Gly Leu
 100 105 110
 Arg Lys Ala Gly Asp Trp Ser Ala Thr Val Arg Tyr Glu Tyr Val Glu
 115 120 125
 Ala Leu Ser Val Pro Glu Ile Asp Val Ser Gly Ile Gly Arg Gly Asn
 130 135 140
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 Lys Glu Ala Asn Ser Phe Thr Asn Tyr Lys Gly Phe Ser Ala Leu Tyr
 165 170 175
 Met Tyr Gly Ile Thr Asp Ser Leu Ser Phe Arg Ala Tyr Gly Ala Tyr
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<211> 490

<212> PRT

<213> Chlamydia pneumoniae

<400> 8

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 35 40 45

Glu Ser Lys Thr Asp Ser Val Glu Arg Trp Ser Ile Leu Arg Ser Ala
 50 55 60
 Val Asn Ala Leu Met Ser Leu Ala Asp Lys Leu Gly Ile Ala Ser Ser
 65 70 75 80
 Asn Ser Ser Ser Ser Thr Ser Arg Ser Ala Asp Val Asp Ser Thr Thr
 85 90 95
 Ala Thr Ala Pro Thr Pro Pro Pro Thr Ser Asp Asp Tyr Lys Thr
 100 105 110
 Gln Ala Gln Thr Ala Tyr Asp Thr Ile Phe Thr Ser Thr Ser Leu Ala
 115 120 125
 Asp Ile Gln Ala Ala Leu Val Ser Leu Gln Asp Ala Val Thr Asn Ile
 130 135 140
 Lys Asp Thr Ala Ala Thr Asp Glu Glu Thr Ala Ile Ala Ala Glu Trp
 145 150 155 160
 Glu Thr Lys Asn Ala Asp Ala Ile Lys Val Gly Ala Gln Ile Thr Glu
 165 170 175
 Leu Ala Lys Tyr Ala Ser Asp Asn Gln Ala Ile Leu Asp Ser Leu Gly
 180 185 190
 Lys Leu Thr Ser Phe Asp Leu Leu Gln Thr Ala Leu Leu Gln Ser Val
 195 200 205
 Ala Asn Asn Asn Lys Ala Ala Glu Leu Leu Lys Glu Met Gln Asp Asn
 210 215 220
 Pro Val Val Pro Gly Lys Thr Pro Ala Ile Ala Gln Ser Leu Val Asp
 225 230 235 240
 Gln Thr Asp Ala Thr Ala Thr Gln Ile Glu Lys Asp Gly Asn Ala Ile
 245 250 255
 Gly Asp Ala Tyr Phe Ala Gly Gln Asn Ala Ser Gly Ala Val Glu Asn
 260 265 270
 Ala Lys Ser Asn Asn Ser Ile Ser Asn Ile Asp Ser Ala Lys Ala Ala
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 Lys Asp Leu Lys Asn Ile Lys Pro Ala Asp Gly Ser Asp Val Pro Asn
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 Pro Gly Thr Thr Val Gly Gly Ser Lys Gln Gln Gly Ser Ser Ile Gly
 340 345 350
 Ser Ile Arg Val Ser Met Leu Leu Asp Asp Ala Glu Asn Glu Thr Ala
 355 360 365

Ser Ile Leu Met Ser Gly Phe Arg Gln Met Ile His Met Phe Asn Thr
370 375 380

Glu Asn Pro Asp Ser Gln Ala Ala Gln Gln Glu Leu Ala Ala Gln Ala
385 390 395 400

Arg Ala Ala Lys Ala Ala Gly Asp Asp Ser Ala Ala Ala Ala Leu Ala
405 410 415

Asp Ala Gln Lys Ala Leu Glu Ala Ala Leu Gly Lys Ala Gly Gln Gln
420 425 430

Gln Gly Ile Leu Asn Ala Leu Gly Gln Ile Ala Ser Ala Ala Val Val
435 440 445

Ser Ala Gly Val Leu Pro Leu Gln Gln Val Leu Trp Ile Arg Ala Arg
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Ser Ala Val Asp His His His His His His
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<210> 9

<211> 463

<212> PRT

<213> Chlamydia pneumoniae

<400> 9

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35 40 45

Glu Ser Lys Thr Asp Ser Val Glu Arg Trp Ser Ile Leu Arg Ser Ala
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Val Asn Ala Leu Met Ser Leu Ala Asp Lys Leu Gly Ile Ala Ser Ser
65 70 75 80

Asn Ser Ser Ser Ser Thr Ser Arg Ser Ala Asp Val Asp Ser Thr Thr
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Ala Thr Ala Pro Thr Pro Pro Pro Pro Thr Ser Asp Asp Tyr Lys Thr
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Gln Ala Gln Thr Ala Tyr Asp Thr Ile Phe Thr Ser Thr Ser Leu Ala
115 120 125

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Lys Asp Thr Ala Ala Thr Asp Glu Glu Thr Ala Ile Ala Ala Glu Trp
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 Pro Val Val Pro Gly Lys Thr Pro Ala Ile Ala Gln Ser Leu Val Asp
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 Ser Ile Leu Met Ser Gly Phe Arg Gln Met Ile His Met Phe Asn Thr
 370 375 380
 Glu Asn Pro Asp Ser Gln Ala Ala Gln Gln Glu Leu Ala Ala Gln Ala
 385 390 395 400
 Arg Ala Ala Lys Ala Ala Gly Asp Asp Ser Ala Ala Ala Ala Leu Ala
 405 410 415
 Asp Ala Gln Lys Ala Leu Glu Ala Ala Leu Gly Lys Ala Gly Gln Gln
 420 425 430
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 <212> PRT
 <213> Chlamydia pneumoniae

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 <213> Chlamydia pneumoniae

<400> 11
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<210> 12
 <211> 1426
 <212> DNA
 <213> Chlamydia pneumoniae

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<212> DNA

<213> Chlamydia pneumoniae

<400> 13

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<212> DNA

<213> Chlamydia pneumoniae

<400> 14

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<210> 15

<211> 394

<212> PRT

<213> Chlamydia pneumoniae

<400> 15

Met Leu Pro Val Gly Asn Pro Ser Asp Pro Ser Leu Leu Ile Asp Gly
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 Thr Ile Trp Glu Gly Ala Ala Gly Asp Pro Cys Asp Pro Cys Ala Thr
 20 25 30
 Trp Cys Asp Ala Ile Ser Leu Arg Ala Gly Phe Tyr Gly Asp Tyr Val
 35 40 45
 Phe Asp Arg Ile Leu Lys Val Asp Ala Pro Lys Thr Phe Ser Met Gly
 50 55 60
 Ala Lys Pro Thr Gly Ser Ala Ala Ala Asn Tyr Thr Thr Ala Val Asp
 65 70 75 80
 Arg Pro Asn Pro Ala Tyr Asn Lys His Leu His Asp Ala Glu Trp Phe
 85 90 95
 Thr Asn Ala Gly Phe Ile Ala Leu Asn Ile Trp Asp Arg Phe Asp Val
 100 105 110
 Phe Cys Thr Leu Gly Ala Ser Asn Gly Tyr Ile Arg Gly Asn Ser Thr
 115 120 125
 Ala Phe Asn Leu Val Gly Leu Phe Gly Val Lys Gly Thr Thr Val Asn
 130 135 140
 Ala Asn Glu Leu Pro Asn Val Ser Leu Ser Asn Gly Val Val Glu Leu
 145 150 155 160
 Tyr Thr Asp Thr Ser Phe Ser Trp Ser Val Gly Ala Arg Gly Ala Leu
 165 170 175
 Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Glu Phe Gln Tyr Ala Gln
 180 185 190
 Ser Lys Pro Lys Val Glu Glu Leu Asn Val Ile Cys Asn Val Ser Gln
 195 200 205
 Phe Ser Val Asn Lys Pro Lys Gly Tyr Lys Gly Val Ala Phe Pro Leu
 210 215 220
 Pro Thr Asp Ala Gly Val Ala Thr Ala Thr Gly Thr Lys Ser Ala Thr
 225 230 235 240
 Ile Asn Tyr His Glu Trp Gln Val Gly Ala Ser Leu Ser Tyr Arg Leu
 245 250 255
 Asn Ser Leu Val Pro Tyr Ile Gly Val Gln Trp Ser Arg Ala Thr Phe
 260 265 270
 Asp Ala Asp Asn Ile Arg Ile Ala Gln Pro Lys Leu Pro Thr Ala Val
 275 280 285
 Leu Asn Leu Thr Ala Trp Asn Pro Ser Leu Leu Gly Asn Ala Thr Ala
 290 295 300

Leu Ser Thr Thr Asp Ser Phe Ser Asp Phe Met Gln Ile Val Ser Cys
305 310 315 320

Gln Ile Asn Lys Phe Lys Ser Arg Lys Ala Cys Gly Val Thr Val Gly
325 330 335

Ala Thr Leu Val Asp Ala Asp Lys Trp Ser Leu Thr Ala Glu Ala Arg
340 345 350

Leu Ile Asn Glu Arg Ala Ala His Val Ser Gly Gln Phe Arg Phe Arg
355 360 365

Tyr Gln Ala Tyr Val Glu Gln Lys Leu Ile Ser Glu Glu Asp Leu Asn
370 375 380

Ser Ala Val Asp His His His His His His
385 390

<210> 16

<211> 367

<212> PRT

<213> Chlamydia pneumoniae

<400> 16

Met Leu Pro Val Gly Asn Pro Ser Asp Pro Ser Leu Leu Ile Asp Gly
1 5 10 15

Thr Ile Trp Glu Gly Ala Ala Gly Asp Pro Cys Asp Pro Cys Ala Thr
20 25 30

Trp Cys Asp Ala Ile Ser Leu Arg Ala Gly Phe Tyr Gly Asp Tyr Val
35 40 45

Phe Asp Arg Ile Leu Lys Val Asp Ala Pro Lys Thr Phe Ser Met Gly
50 55 60

Ala Lys Pro Thr Gly Ser Ala Ala Ala Asn Tyr Thr Thr Ala Val Asp
65 70 75 80

Arg Pro Asn Pro Ala Tyr Asn Lys His Leu His Asp Ala Glu Trp Phe
85 90 95

Thr Asn Ala Gly Phe Ile Ala Leu Asn Ile Trp Asp Arg Phe Asp Val
100 105 110

Phe Cys Thr Leu Gly Ala Ser Asn Gly Tyr Ile Arg Gly Asn Ser Thr
115 120 125

Ala Phe Asn Leu Val Gly Leu Phe Gly Val Lys Gly Thr Thr Val Asn
130 135 140

Ala Asn Glu Leu Pro Asn Val Ser Leu Ser Asn Gly Val Val Glu Leu
145 150 155 160

Tyr Thr Asp Thr Ser Phe Ser Trp Ser Val Gly Ala Arg Gly Ala Leu
165 170 175

Trp Glu Cys Gly Cys Ala Thr Leu Gly Ala Glu Phe Gln Tyr Ala Gln
180 185 190

Ser Lys Pro Lys Val Glu Glu Leu Asn Val Ile Cys Asn Val Ser Gln
195 200 205

Phe Ser Val Asn Lys Pro Lys Gly Tyr Lys Gly Val Ala Phe Pro Leu
210 215 220

Pro Thr Asp Ala Gly Val Ala Thr Ala Thr Gly Thr Lys Ser Ala Thr
225 230 235 240

Ile Asn Tyr His Glu Trp Gln Val Gly Ala Ser Leu Ser Tyr Arg Leu
245 250 255

Asn Ser Leu Val Pro Tyr Ile Gly Val Gln Trp Ser Arg Ala Thr Phe
260 265 270

Asp Ala Asp Asn Ile Arg Ile Ala Gln Pro Lys Leu Pro Thr Ala Val
275 280 285

Leu Asn Leu Thr Ala Trp Asn Pro Ser Leu Leu Gly Asn Ala Thr Ala
290 295 300

Leu Ser Thr Thr Asp Ser Phe Ser Asp Phe Met Gln Ile Val Ser Cys
305 310 315 320

Gln Ile Asn Lys Phe Lys Ser Arg Lys Ala Cys Gly Val Thr Val Gly
325 330 335

Ala Thr Leu Val Asp Ala Asp Lys Trp Ser Leu Thr Ala Glu Ala Arg
340 345 350

Leu Ile Asn Glu Arg Ala Ala His Val Ser Gly Gln Phe Arg Phe
355 360 365

<210> 17

<211> 38

<212> DNA

<213> Chlamydia pneumoniae

<400> 17

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38

<210> 18

<211> 28

<212> DNA

<213> Chlamydia pneumoniae

<400> 18

cgggatccat agaacttgct gcagcggg

28

<210> 19

<211> 38

<212> DNA

<213> Chlamydia pneumoniae

<400> 19
cccggatatc ccaccatggt gcctgtaggg aacccttc

38

<210> 20
<211> 31
<212> DNA
<213> Chlamydia pneumoniae

<400> 20
ggggtaccgg aatctgaact gaccagatac g

31
